

AMENDMENTS TO THE CLAIMS

Applicant submits below a complete listing of the current claims, including marked-up claims with insertions indicated by underlining and deletions indicated by strikeouts and/or double bracketing. This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of the Claims

1. (Currently amended) A video decoding circuit comprising:

a first video data processor ;

a second video data processor ; and

a connection connecting said first video data processor and said second data processor;

wherein said first video data processor is arranged to receive a first signal comprising encoded video data, process said first signal to provide a second signal and output said second signal, said first video data processor being arranged to process said first signal dependent on at least part of said received first signal, and

said second video data processor comprising a predictor constructor, said second video data processor is arranged to receive at least a part of said second signal, process said at least a part of said second signal to provide a third signal, and output said third signal, said second and third signals comprising a decoded video image stream wherein a part of said second signal comprises a picture level parameter word which comprises coding standard information, said coding standard information defining variations in the type of data, and

said second video data processor is arranged to process said at least part of said second signal dependent on ~~at least part of said at least part of second signal~~ the format of the data received.

2. (Original) A circuit as claimed in claim 1, wherein said first video data processor is arranged to variable length decode said received first signal to produce a decoded first signal.

3. (Original) A circuit as claimed in claim 2, wherein said first video data processor is arranged to separate said first signal data into at least a first part and a second part,

wherein said first part comprises at least one of:

pixel data;
residual data, and
wherein said second part comprises motion vector data.

4. (Original) A circuit as claimed in claim 3, wherein said first video data processor is arranged to inverse quantize said first part of said first signal.

5. (Currently amended) A circuit as claimed in claim 3[[or 4]], wherein said first video data processor is arranged to spatial domain transform said first part of said first signal.

6. (Currently amended) A circuit as claimed in [[claims 4 or 5]]claim 4, wherein said first video data processor is arranged to combine said spatial domain transformed and/or inverse quantized first part of said first signal with said second part of said first signal.

7. (Currently amended) A circuit as claimed in ~~any previous~~ claim 1, wherein said second video data processor is arranged to interpolate at least a first part of said second signal.

8. (Original) A circuit as claimed in claim 7, wherein said second video data processor is arranged to interpolate at least a first part of said second signal using one of horizontal and vertical interpolation.

9. (Original) A circuit as claimed in claim 8, further comprising a memory, said second video data processor being arranged to store said interpolated part of said second signal in said memory.

10. (Currently amended) A circuit as claimed in claim 8[[or 9]], wherein said second video data processor is arranged to interpolate said stored interpolated first part of said second signal using the other one of horizontal and vertical interpolation.

11. (Currently amended) A circuit as claimed in ~~claims 7 to 10~~ claim 7, wherein said second video data processor is arranged to combine said interpolated part of said second signal

and a further part of said second signal, wherein said interpolated part of said second signal comprises an estimated macro block, and said further part of said second signal comprises residual error data.

12. (Currently amended) A circuit as claimed in ~~any previous~~ claim 12, wherein said second video data processor is arranged to filter at least one of said at least one part of said second signal and said third signal.

13. (Original) A circuit as claimed in claim 12 wherein said filter comprises at least one of a de-ringing filter and a deblocking filter.

14. (Currently amended) A circuit as claimed in ~~any previous~~ claim 1, wherein said connection comprises a bus connecting said first and second video data processors.

15. (Original) A circuit as claimed in claim 14, further comprising a memory device, said memory device being connected to said bus.

16. (Original) A circuit as claimed in claim 15, wherein said first video data processor has an output for outputting said second signal to said memory device via said bus.

17. (Original) A circuit as claimed in claim 16, wherein said second video data processor has an input for receiving said parts of said second signal from said memory device via said bus.

18. (Currently amended) A circuit as claimed in ~~claims 1 to 17~~ claim 1, wherein said connection comprises a data interconnect, said data

interconnect directly connecting said first video data processor and said second video data processor.

19. (Original) A circuit as claimed in claim 18, wherein said first video data processor has an output for outputting said second signal to said data interconnect.

20. (Currently amended) A circuit as claimed in claim 18~~and 19~~, wherein said second video data processor has an input for receiving said parts of said second signal from said data interconnect.

21. (Currently amended) A circuit as claimed in claim 20~~when appended to claim 15~~, wherein said connection comprises a bus connecting said first and second video data processors and further comprising a memory device, said memory device being connected to said bus wherein said second video data processor receives part of said parts of said second signal from said data interconnect and part of said parts of said second signal from said bus.

22. (Currently amended) A circuit as claimed in ~~any previous claim 1~~, wherein said first signal is at least one of:

- a MPEG2 encoded video stream;
- a H. 263 encoded video stream;
- a RealVideo9 encoded video stream;
- a Windows media player encoded video stream;
- a H. 264 encoded video stream.

23. (Currently amended) A circuit as claimed in ~~any previous claim 1~~, wherein said second signal comprises at least one of:

- buffer base address word;
- picture level parameter header word;
- ~~picture level parameter word;~~
- macro-block header word;
- slice parameter word;
- motion vector horizontal luma word ;
- motion vector vertical luma word;
- motion vector horizontal chroma word ;
- motion vector vertical chroma word;
- pixel data reference word and

pixel data residual word.

24. (Currently amended) A circuit as claimed in ~~any previous claim~~ 1, wherein said first video data processor comprises a data packer.

25. (Currently amended) A circuit as claimed in ~~claims 1 to 23~~ claim 1, wherein said second video data processor comprises a data packer.

26. (Currently amended) A circuit as claimed in ~~claims 24 or 25~~ claim 24, wherein said data packer comprises: an input, said input being arranged to receive said second signal, said second signal comprising data words; means for ordering said data words; and an output, said output being arranged to transmit data packets comprising ordered data words.

27. (Currently amended) An integrated circuit comprising a circuit as claimed in ~~any previous claim~~ 1.

28. (Currently amended) A circuit as claimed in ~~claims 1 to 26~~ claim 1, wherein said first video data processor comprises a very long instruction word processor.

29. (Original) A circuit as claimed in claim 28, wherein said very long instruction word processor is adapted to process said first signal further dependent on a set of instructions stored in a memory.

30. (Currently amended) A circuit as claimed in ~~claims 1 to 29~~ claim 1, wherein said second video data processor comprises a programmable processor.

31. (Currently amended) A video decoding method comprising the steps of:
receiving at a first video data processor a first signal comprising encoded video data,
processing said first signal to provide a second signal dependent on at least part of said first signal,
outputting said second signal,

receiving at least a part of said second signal at a second video data processor,
processing said at least part of said second signal within the second video processor
predictor constructor to provide a third signal ~~dependent on at least part of said second signal~~,
and

outputting said third signal,

wherein said second and third signals comprise a decoded video image stream, wherein
said step of outputting said second signal comprises the step of outputting coding standard
information, the coding standard information defining variations in the type of data, and said step
of processing said at least part of said second signal is dependent on the format of the video data
received.

32. (Original) A method as claimed in claim 31, wherein said step of processing said first signal comprises the step of variable length decoding said first signal.

33. (Currently amended) A method as claimed in ~~claims 31 and 32~~ claim 31, wherein said step of processing said first signal comprises the step of separating said first signal into at least a first part and a second part,

wherein said first part comprises at least one of:

pixel data;

residual data, and

wherein said second part comprises motion vector data.

34. (Original) A method as claimed in claim 33, wherein said step of processing said first signal further comprises the step of inverse quantizing said first part of said first signal.

35. (Currently amended) A method as claimed in ~~claims 33 and 34~~ claim 33, wherein said step of processing said first signal further comprises the step of spatial domain transforming said first part of said first signal.

36. (Currently amended) A method as claimed in ~~claims 34 or 35~~ claim 34, wherein said step of processing said first signal further comprises the step of combining said spatial

domain transformed and/or inverse quantized first part of said first signal with said second part of said first signal.

37. (Currently amended) A method as claimed in ~~claims 31 to 36~~claim 31, wherein said step of processing at least a part of said second signal further comprises the step of interpolating at least a first part of said second signal.

38. (Original) A method as claimed in claim 37, wherein said step of interpolating at least a first part of said second signal comprises the step of interpolating at least a first part of said second signal using one of horizontal and vertical interpolation.

39. (Original) A method as claimed in claim 38, wherein said step of interpolating further comprises storing said interpolated part of said second signal.

40. (Currently amended) A method as claimed in ~~claims 38 and 39~~claim 38, wherein said step of interpolating further comprises interpolating said interpolated part of said second signal using the other one of horizontal and vertical interpolation.

41. (Currently amended) A method as claimed in ~~claims 37 to 40~~claim 37, wherein said step of processing at least part of said second signal further comprises combining said interpolated part of said second signal and a further part of said second signal, wherein said interpolated part of said second signal comprises an estimated macro block, and said further part of said second signal comprises residual error data.

42. (Currently amended) A method as claimed in ~~claims 31 to 41~~claim 31, further comprising a further, wherein said step of further processing at least a part of said second signal wherein said further processing step comprises the step of filtering, wherein said step of filtering comprises at least one of the steps:

de-ringing filtering and de-blocking filtering.

43. (Currently amended) A method as claimed in ~~claims 31 to 42~~claim 31, wherein said step of outputting said second signal further comprises the step of storing said second signal in a memory.

44. (Currently amended) A method as claimed in ~~claims 31 to 43~~claim 40, wherein said step of receiving at least part of said second signal comprises receiving said at least part of said second signal directly from the first video data processor.

45. (Currently amended) A method as claimed in ~~claims 44 when appended to claim 40~~, wherein said step of receiving at least part of said second signal comprises receiving a first part of said at least part of said second signal directly from said first video data processor and a second part of said at least part of said second signal from said memory.

46. (Currently amended) A method as claimed in ~~claim 31 to 45~~31, wherein said step of processing said first signal further comprises the step of packetizing said second signal.

47. (Currently amended) A method as claimed in ~~claims 31 to 45~~claim 31, further comprising, wherein said step of processing said second signal further comprises the steps of:
packetizing said at least part of said second signal;
storing said at least part of said second signal in a memory; and
receiving said at least part of said stored second signal from said memory.

Please cancel claim 48 without prejudice or disclaimer.

48. (Canceled)

49. (Currently amended) A computer program arranged to run on a computer comprising a first video data processor and a second data processor, for carrying out a video decoding method comprising the steps of: receiving at a first video data processor (509) a first signal comprising encoded video data,

processing said first signal to provide a second signal dependent on at least part of said first signal, outputting said second signal, receiving at least a part of said second signal at a

second video data processor-(519), processing said at least part of said second signal within the second video processor-(519) predictor constructor-(459) to provide a third signal, and outputting said third signal, wherein said second and third signals comprise a decoded video image stream, characterised wherein said step of outputting said second signal comprises the step of outputting coding standard information, the coding standard information defining variations in the type of data, and said step of processing said at least part of said second signal is dependent on the format of the video data received.

Please add the following new claims 50 – 52.

- 50. (New) A Digital Versatile Disc device comprising a circuit as claimed in claim 1.
- 51. (New) An MPEG decoder comprising a circuit as claimed in claim 1.
- 52. (New) A Digital Video Broadcasting device comprising a circuit as claimed in claim 1.